



State of Utah

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Governor

GREG BELL
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-038-13

MEMORANDUM

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

FROM: Joel Karmazyn, Environmental Scientist

DATE: May 21, 2013

SUBJECT: PROPOSE FOR PUBLIC COMMENT: R307-361. Architectural Coatings.

The purpose of this rule is to limit volatile organic compound (VOC) emissions from architectural coatings by specifying maximum VOC content limits and by creating storage, cleanup, and labeling requirements.

The rule is applicable to any person who supplies, sells, offers for sale, applies, or solicits the application of any architectural coating or who manufactures, blends, or repackages any architectural coating for use within Box Elder, Cache, Davis, Salt Lake, Tooele, Utah, and Weber counties.

Architectural coatings account for a significant portion of the coatings category within area sources. This rule is being proposed as part of the PM_{2.5} State Implementation Plan.

Area Category 2014	Surface Coatings, Architectural (TPY)
County	VOC
Box Elder	82
Cache	201
Davis	536
Salt Lake	1790
Tooele	116
Utah	968
Weber	388
TOTAL	4081

RACT Analysis

The California Air Resources Board (CARB) and various California air management districts implemented architectural and industrial maintenance (AIM) rules in the late 1990's to 2000 based on reasonably available control technology (RACT) analysis. Updates to these rules have been made several times since their inception. EPA promulgated a national AIM rule in January 2005 (40 CFR Part 59 Subpart D). The Ozone Transport Commission (OTC) developed its first model AIM rule in 2001 based on the work conducted by CARB in 2000. The OTC most current rule is dated 2011. Several OTC member states plan on updating their rules to the most current OTC model rule in the near future.

Stakeholders

Advance notice of rulemaking was made to the primary national stakeholder, the American Coatings Association, Inc. (ACA). The ACA was notified because it represents the national manufacturers who would produce and sell these coatings to Utah consumers.

Advance rulemaking notice was also made to Hill Air Force Base and the Utah Manufacturers Association.

VOC Reduction

According to Pechan¹, the 2005 federal AIM rule resulted in a 20% VOC reduction from uncontrolled emissions. We have not adjusted our inventory to account for the impact of this rule; therefore, it is appropriate to take full credit for VOC reductions.

The EPA AirControlNet database states that the VOC reduction for the initial OTC AIM rule is 55% from uncontrolled emissions with rule effectiveness and rule penetration at 100% (page III-1304), "reflecting the compliance and distribution practices of this industry" (Pechan).

A current estimate of further reduction for the 2011 model rule is not available. Since we have not adjusted the area source inventory for the 20% reduction from the federal rule, we are proposing to take the full 55% VOC reduction credit.

Cost

According to AirControlNet, the initial cost for the OTC model rule was \$6,628 per ton VOC reduced. Since most of that cost has already been realized in previous years, it is reasonable to assume that the cost to implement the OTC 2011 model rule will be substantially lower.

Recommendation: Staff recommends the Board propose for public comment R307-361. Architectural Coatings.

¹ Pechan, March 31, 2001, Control Measure Development Support Analysis of Ozone Transport Commission Model Rules

1 **R307. Environmental Quality, Air Quality.**

2 **R307-361. Architectural Coatings.**

3 **R307-361-1. Purpose.**

4 (1) The purpose of R307-361 is to limit volatile organic
5 compounds (VOC) emissions from architectural coatings.

6 (2) This rule specifies architectural coatings storage,
7 cleanup, and labeling requirements.

8
9 **R307-361-2. Applicability.**

10 R307-361 applies to any person who supplies, sells, offers
11 for sale, applies, or solicits the application of any
12 architectural coating, or who manufactures, blends or repackages
13 any architectural coating for use within Box Elder, Cache,
14 Davis, Salt Lake, Tooele, Utah, and Weber counties.

15
16 **R307-361-3. Definitions.**

17 The following additional definitions apply only to R307-
18 361.

19 "Adhesive" means any chemical substance that is applied for
20 the purpose of bonding two surfaces together other than by
21 mechanical means.

22 "Aerosol coating product" means a pressurized coating
23 product containing pigments or resins that dispenses product
24 ingredients by means of a propellant, and is packaged in a
25 disposable can for hand-held application or for use in
26 specialized equipment for ground traffic/marketing applications.

27 "Aluminum roof coating" means a coating labeled and
28 formulated exclusively for application to roofs and containing
29 at least 84 grams of elemental aluminum pigment per liter of
30 coating (at least 0.7 pounds per gallon).

31 "Appurtenance" means any accessory to a stationary
32 structure coated at the site of installation, whether installed
33 or detached, including, but not limited to, bathroom and kitchen
34 fixtures; cabinets; concrete forms; doors; elevators; fences;
35 hand railings; heating equipment, air conditioning equipment,
36 and other fixed mechanical equipment or stationary tools;
37 lampposts; partitions; pipes and piping systems; rain gutters
38 and downspouts; stairways, fixed ladders, catwalks, and fire
39 escapes; and window screens. "Architectural coating" means a
40 coating to be applied to stationary structures or their

1 appurtenances at the site of installation, to portable buildings
2 at the site of installation, to pavements, or to curbs.

3 (1) Coatings applied in shop applications or to non-
4 stationary structures such as airplanes, ships, boats, railcars,
5 and automobiles, and adhesives are not considered architectural
6 coatings for the purposes of this rule.

7 "Basement specialty coating" means a clear or opaque
8 coating that is labeled and formulated for application to
9 concrete and masonry surfaces to provide a hydrostatic seal for
10 basements and other below-grade surfaces, meeting the following
11 criteria:

12 (1) Coating must be capable of withstanding at least 10 psi
13 of hydrostatic pressure, as determined in accordance with ASTM
14 D7088-04 and;

15 (2) Coating must be resistant to mold and mildew growth and
16 must achieve a microbial growth rating of 8 or more, as
17 determined in accordance with ASTM D3273-00 and ASTM D3274-95.

18 "Bitumens" means black or brown materials including, but
19 not limited to, asphalt, tar, pitch, and asphaltite that are
20 soluble in carbon disulfide, consist mainly of hydrocarbons, and
21 are obtained from natural deposits or as residues from the
22 distillation of crude petroleum or coal.

23 "Bituminous roof coating" means a coating that incorporates
24 bitumens and that is labeled and formulated exclusively for
25 roofing for the primary purpose of preventing water penetration.

26 "Bituminous roof primer" means a primer that incorporates
27 bitumens and that is labeled and formulated exclusively for
28 roofing and intended for the purpose of preparing a weathered or
29 aged surface or improving adhesion of subsequent surface
30 components.

31 "Bond breaker" means a coating labeled and formulated for
32 application between layers of concrete to prevent a freshly
33 poured top layer of concrete from bonding to the layer over
34 which it is poured.

35 "Calcimine recoaters" means a flat solvent borne coating
36 formulated and recommended specifically for coating calcimine-
37 painted ceilings and other calcimine-painted substrates.

38 "Coating" means a material applied onto or impregnated into
39 a substrate for protective, decorative, or functional purposes,
40 and such materials include, but are not limited to, paints,
41 varnishes, sealers, and stains.

1 "Colorant" means a concentrated pigment dispersion in
2 water, solvent, or binder that is added to an architectural
3 coating after packaging in sale units to produce the desired
4 color.

5 "Concrete curing compound" means a coating labeled and
6 formulated for application to freshly poured concrete to retard
7 the evaporation of water and or harden or dustproof the surface
8 of freshly poured concrete.

9 "Concrete/masonry sealer" means a clear or opaque coating
10 that is labeled and formulated primarily for application to
11 concrete and masonry surfaces to prevent penetration of water,
12 provide resistance against abrasion, alkalis, acids, mildew,
13 staining, or ultraviolet light, or harden or dustproof the
14 surface of aged or cured concrete.

15 "Concrete surface retarder" means a mixture of retarding
16 ingredients such as extender pigments, primary pigments, resin,
17 and solvent that interact chemically with the cement to prevent
18 hardening on the surface where the retarder is applied allowing
19 the retarded mix of cement and sand at the surface to be washed
20 away to create an exposed aggregate finish.

21 "Conjugated oil varnish" means a clear or semi-transparent
22 wood coating, labeled as such, excluding lacquers or shellacs,
23 based on a natural occurring conjugated vegetable oil (tung oil)
24 and modified with other natural or synthetic resins; a minimum
25 of 50% of the resin solids consisting of conjugated oil.

26 "Conversion varnish" means a clear acid coating with an
27 alkyd or other resin blended with amino resins and supplied as a
28 single component or two-component product.

29 "Driveway sealer" means a coating labeled and formulated
30 for application to worn asphalt driveway surfaces to fill
31 cracks, seal the surface to provide protection, or to restore or
32 preserve the appearance.

33 "Dry fog coating" means a coating labeled and formulated
34 only for spray application such that overspray droplets dry
35 before subsequent contact with incidental surfaces in the
36 vicinity of the surface coating activity.

37 "Faux finishing coating" means a coating labeled and
38 formulated to meet one or more of the following criteria:

39 (1) A glaze or textured coating used to create artistic
40 effects, including, but not limited to, dirt, suede, old age,
41 smoke damage, and simulated marble and wood grain;

1 (2) A decorative coating used to create a metallic,
2 iridescent, or pearlescent appearance and that contains at least
3 48 grams of pearlescent mica pigment or other iridescent pigment
4 per liter of coating as applied (at least 0.4 pounds per
5 gallon); or

6 (3) A decorative coating used to create a metallic
7 appearance and that contains less than 48 grams of elemental
8 metallic pigment per liter of coating as applied (less than 0.4
9 pounds per gallon); or

10 (4) A decorative coating used to create a metallic
11 appearance and that contains greater than 48 grams of elemental
12 metallic pigment per liter of coating as applied (greater than
13 0.4 pounds per gallon) and which requires a clear topcoat to
14 prevent the degradation of the finish under normal use
15 conditions; or

16 (5) A clear topcoat to seal and protect a faux finishing
17 coating that meets the requirements of (1) through (4) of this
18 definition, and these clear topcoats shall be sold and used
19 solely as part of a faux finishing coating system.

20 "Fire-resistive coating" means a coating labeled and
21 formulated to protect structural integrity by increasing the
22 fire endurance of interior or exterior steel and other
23 structural materials. The Fire-Resistive coating category
24 includes sprayed fire resistive materials and intumescent fire
25 resistive coatings that are used to bring structural materials
26 into compliance with federal, state, and local building code
27 requirements. The fire-resistant coatings shall be tested in
28 accordance with ASTM E119-08.

29 "Flat coating" means a coating that is not defined under
30 any other definition in this rule and that registers gloss less
31 than 15 on an 85 degree meter or less than 5 on a 60 degree
32 meter according to ASTM D523-89 (1999).

33 "Floor coating" means an opaque coating that is labeled and
34 formulated for application to flooring, including, but not
35 limited to, decks, porches, steps, garage floors, and other
36 horizontal surfaces that may be subject to foot traffic.

37 "Form-release compound" means a coating labeled and
38 formulated for application to a concrete form to prevent the
39 freshly poured concrete from bonding to the form which may
40 consist of wood, metal, or some material other than concrete.

1 "Graphic arts coating or sign paint" means a coating
2 labeled and formulated for hand-application by artists using
3 brush, airbrush, or roller techniques to indoor and outdoor
4 signs, excluding structural components, and murals including
5 lettering enamels, poster colors, copy blockers, and bulletin
6 enamels.

7 "High-temperature coating" means a high performance coating
8 labeled and formulated for application to substrates exposed
9 continuously or intermittently to temperatures above 204 degrees
10 Celsius (400 degrees Fahrenheit).

11 "Impacted immersion coating" means a high performance
12 maintenance coating formulated and recommended for application
13 to steel structures subject to immersion in turbulent, debris-
14 laden water. These coatings are specifically resistant to high-
15 energy impact damage by floating ice or debris.

16 "Industrial maintenance coating" means a high performance
17 architectural coating, including primers, sealers, undercoaters,
18 intermediate coats, and topcoats, formulated for application to
19 substrates, including floors exposed to one or more of the
20 following extreme environmental conditions:

21 (1) Immersion in water, wastewater, or chemical solutions
22 (aqueous and non-aqueous solutions), or chronic exposure of
23 interior surfaces to moisture condensation;

24 (2) Acute or chronic exposure to corrosive, caustic or
25 acidic agents, or to chemicals, chemical fumes, or chemical
26 mixtures or solutions;

27 (3) Frequent exposure to temperatures above 121 degrees
28 Celsius (250 degrees Fahrenheit);

29 (4) Frequent heavy abrasion, including mechanical wear and
30 frequent scrubbing with industrial solvents, cleansers, or
31 scouring agents; or

32 (5) Exterior exposure of metal structures and structural
33 components.

34 "Low solids coating" means a coating containing 0.12
35 kilogram or less of solids per liter (1 pound or less of solids
36 per gallon) of coating material as recommended for application
37 by the manufacturer.

38 "Magnesite cement coating" means a coating labeled and
39 formulated for application to magnesite cement decking to
40 protect the magnesite cement substrate from erosion by water.

1 "Manufacturer's maximum thinning recommendation" means the
2 maximum recommendation for thinning that is indicated on the
3 label or lid of the coating container.

4 "Mastic texture coating" means a coating labeled and
5 formulated to cover holes and minor cracks and to conceal
6 surface irregularities, and is applied in a single coat of at
7 least 10 mils (at least 0.010 inch) dry film thickness.

8 "Medium density fiberboard (MDF)" means a composite wood
9 product, panel, molding, or other building material composed of
10 cellulosic fibers, usually wood, made by dry forming and
11 pressing of a resinated fiber mat.

12 "Metallic pigmented coating" means a coating that is
13 labeled and formulated to provide a metallic appearance and must
14 contain at least 48 grams of elemental metallic pigment
15 (excluding zinc) per liter of coating as applied (at least 0.4
16 pounds per gallon), when tested in accordance with SCAQMD Method
17 318-95 but does not include coatings applied to roofs, or zinc-
18 rich primers.

19 "Multi-color coating" means a coating that is packaged in a
20 single container and that is labeled and formulated to exhibits
21 more than one color when applied in a single coat.

22 "Non-flat coating" means a coating that is not defined
23 under any other definition in this rule and that registers a
24 gloss of 15 or greater on an 85-degree meter and five or greater
25 on a 60-degree meter according to ASTM D523-89 (1999).

26 "Non-flat/high-gloss coating" means a non-flat coating that
27 registers a gloss of 70 or greater on a 60-degree meter
28 according to ASTM D523-89 (1999).

29 "Nuclear coating" means a protective coating formulated and
30 recommended to seal porous surfaces such as steel or concrete
31 that otherwise would be subject to intrusion by radioactive
32 materials. These coatings must be resistant to long-term
33 cumulative radiation exposure according to ASTM Method 4082-02,
34 relatively easy to decontaminate, and resistant to various
35 chemicals to which the coatings are likely to be exposed
36 according to ASTM Method D 3912-95 (2001).

37 "Particleboard" means a composite wood product panel,
38 molding, or other building material composed of cellulosic
39 material, usually wood, in the form of discrete particles, as
40 distinguished from fibers, flakes, or strands, which are pressed
41 together with resin.

1 "Pearlescent" means exhibiting various colors depending on
2 the angles of illumination and viewing, as observed in mother-
3 of-pearl.

4 "Plywood" means a panel product consisting of layers of
5 wood veneers or composite core pressed together with resin and
6 includes panel products made by either hot or cold pressing
7 (with resin) veneers to a platform.

8 "Post-consumer coating" means a finished coatings generated
9 by a business or consumer that have served their intended end
10 uses, and are recovered from or otherwise diverted from the
11 waste stream for the purpose of recycling.

12 "Pre-treatment wash primer" means a primer that contains a
13 minimum of 0.5% acid, by weight, when tested in accordance with
14 ASTM D1613-06, that is labeled and formulated for application
15 directly to bare metal surfaces to provide corrosion resistance
16 and to promote adhesion of subsequent topcoats.

17 "Primer, sealer, and undercoater" means a coating labeled
18 and formulated to provide a firm bond between the substrate and
19 the subsequent coatings, prevent subsequent coatings from being
20 absorbed by the substrate, prevent harm to subsequent coatings
21 by materials in the substrate, provide a smooth surface for the
22 subsequent application of coatings, provide a clear finish coat
23 to seal the substrate, or to block materials from penetrating
24 into or leaching out of a substrate.

25 "Reactive penetrating sealer" means a clear or pigmented
26 coating that is formulated for application to above-grade
27 concrete and masonry substrates to provide protection from water
28 and waterborne contaminants, including, but not limited to,
29 alkalis, acids, and salts.

30 (1) Reactive penetrating sealers penetrate into concrete
31 and masonry substrates and chemically react to form covalent
32 bonds with naturally occurring minerals in the substrate.

33 (2) Reactive penetrating sealers line the pores of
34 concrete and masonry substrates with a hydrophobic coating but
35 do not form a surface film.

36 (3) Reactive penetrating sealers shall meet all of the
37 following criteria:

38 (a) The reactive penetrating sealer must improve water
39 repellency at least 80% after application on a concrete or
40 masonry substrate, and this performance shall be verified on
41 standardized test specimens in accordance with one or more of

1 the following standards: ASTM C67-07, ASTM C97-02, or ASTM C140-
2 06.

3 (b) The reactive penetrating sealer shall not reduce the
4 water vapor transmission rate by more than 2% after application
5 on a concrete or masonry substrate, and this performance must be
6 verified on standardized test specimens, in accordance with ASTM
7 E96/E96M-05.

8 (c) Products labeled and formulated for vehicular traffic
9 surface chloride screening applications shall meet the
10 performance criteria listed in the National Cooperative Highway
11 Research Report 244 (1981).

12 "Reactive penetrating carbonate stone sealer" means a clear
13 or pigmented coating that is labeled and formulated for
14 application to above-grade carbonate stone substrates to provide
15 protection from water and waterborne contaminants, including but
16 not limited to, alkalis acids, and salts and that penetrates
17 into carbonate stone substrates and chemically reacts to form
18 covalent bonds with naturally occurring minerals in the
19 substrate. They must meet all of the following criteria:

20 (1) Improve water repellency at least 80% after
21 application on a carbonate stone substrate. This performance
22 shall be verified on standardized test specimens, in accordance
23 with one or more of the following standards: ASTM C67-07, ASTM
24 C97-02, or ASTM C140-06; and

25 (2) Not reduce the water vapor transmission rate by more
26 than 10% after application on a carbonate stone substrate. This
27 performance shall be verified on standardized test specimens in
28 accordance with one or more of the following standards: ASTM
29 E96/E96M-05.

30 "Recycled coating" means an architectural coating
31 formulated such that it contains a minimum of 50% by volume
32 post-consumer coating, with a maximum of 50% by volume secondary
33 industrial materials or virgin materials.

34 "Residential" means areas where people reside or lodge,
35 including, but not limited to, single and multiple family
36 dwellings, condominiums, mobile homes, apartment complexes,
37 motels, and hotels.

38 "Roof coating" means a non-bituminous coating labeled and
39 formulated for application to roofs for the primary purpose of
40 preventing water penetration, reflecting ultraviolet light, or
41 reflecting solar radiation.

1 "Rust preventative coating" means a coating that is for
2 metal substrates only and is formulated to prevent the corrosion
3 of metal surfaces for direct-to-metal coating or a coating
4 intended for application over rusty, previously coated surfaces
5 but does not include coatings that are required to be applied as
6 a topcoat over a primer or coatings that are intended for use on
7 wood or any other nonmetallic surface.

8 "Secondary industrial materials" means products or by-
9 products of the paint manufacturing process that are of known
10 composition and have economic value but can no longer be used
11 for their intended purpose.

12 "Semitransparent coating" means a coating that contains
13 binders and colored pigments and is formulated to change the
14 color of the surface but not conceal the grain pattern or
15 texture.

16 "Shellac" means a clear or opaque coating formulated solely
17 with the resinous secretions of the lac beetle (Lacifer lacca)
18 and formulated to dry by evaporation without a chemical
19 reaction.

20 "Shop application" means an application of a coating to a
21 product or a component of a product in or on the premises of a
22 factory or a shop as part of a manufacturing, production, or
23 repairing process (e.g., original equipment manufacturing
24 coatings).

25 "Solicit" means to require for use or to specify by written
26 or oral contract.

27 "Specialty primer, sealer, and undercoater" means a coating
28 that is formulated for application to a substrate to block
29 water-soluble stains resulting from fire damage, smoke damage,
30 or water damage.

31 "Stain" means a semi-transparent or opaque coating labeled
32 and formulated to change the color of a surface but not conceal
33 the grain pattern or texture.

34 "Stone consolidant" means a coating that is labeled and
35 formulated for application to stone substrates to repair
36 historical structures that have been damaged by weathering or
37 other decay mechanisms.

38 (1) Stone consolidants must penetrate into stone
39 substrates to create bonds between particles and consolidate
40 deteriorated material.

1 (2) Stone consolidants must be specified and used in
2 accordance with ASTM E2167-01.

3 "Swimming pool coating" means a coating labeled and
4 formulated to coat the interior of swimming pools and to resist
5 swimming pool chemicals.

6 "Thermoplastic rubber coating and mastic" means a coating
7 or mastic formulated and recommended for application to roofing
8 or other structural surfaces that incorporates no less than 40%
9 by weight of thermoplastic rubbers in the total resin solids and
10 may also contain other ingredients, including, but not limited
11 to, fillers, pigments, and modifying resins.

12 "Tint base" means an architectural coating to which
13 colorant is added after packaging in sale units to produce a
14 desired color.

15 "Traffic marking coating" means a coating labeled and
16 formulated for marking and striping streets, highways, or other
17 traffic surfaces, including, but not limited to, curbs, berms,
18 driveways, parking lots, sidewalks, and airport runways.

19 "Tub and tile refinish coating" means a clear or opaque
20 coating that is labeled and formulated exclusively for
21 refinishing the surface of a bathtub, shower, sink, or
22 countertop and that meets the following criteria:

23 (1) Has a scratch hardness of 3H or harder and a gouge
24 hardness of 4H or harder, determined on bonderite 1000, in
25 accordance with ASTM D3363-05;

26 (2) Has a weight loss of 20 milligrams or less after 1,000
27 cycles, determined with CS-17 wheels on bonderite 1000, in
28 accordance with ASTM D4060-07;

29 (3) Withstands 1,000 hours or more of exposure with few or
30 no #8 blisters, determined on unscribed bonderite in accordance
31 with ASTM D4585-99, and ASTM D714-02e1; and

32 (4) Has an adhesion rating of 4B or better after 24 hours
33 of recovery, determined on unscribed bonderite in accordance
34 with ASTM D4585-99 and ASTM D3359-02.

35 "Veneer" means thin sheets of wood peeled or sliced from
36 logs for use in the manufacture of wood products such as
37 plywood, laminated veneer lumber, or other products.

38 "Virgin Materials" means materials that contain no post-
39 consumer coatings or secondary industrial materials.

1 "VOC actual" means the weight of VOC per volume of coating
2 and applies to coatings in the low solids coatings category and
3 it is calculated with the following equation:

$$\text{VOC Actual} = (W_s - W_w - W_{ec}) (V_m)$$

5 Where, VOC actual = the grams of VOC per liter of coating
6 (also known as
7 "Material VOC");

8 W_s = weight of volatiles, in grams;

9 W_w = weight of water, in grams;

10 W_{ec} = weight of exempt compounds, in grams; and

11 V_m = volume of coating, in liters

12 "VOC content" means the weight of VOC per volume of coating
13 and is VOC regulatory for all coatings except those in the low
14 solids category.

15 (1) For coatings in the low solids category, the VOC
16 Content is VOC actual.

17 (2) If the coating is a multi-component product, the VOC
18 content is VOC regulatory as mixed or catalyzed.

19 (3) If the coating contains silanes, siloxanes, or other
20 ingredients that generate ethanol or other VOCs during the
21 curing process, the VOC content must include the VOCs emitted
22 during curing.

23 (4) VOC content must include maximum amount of thinning
24 solvent recommended by the manufacturer.

25 "VOC regulatory" means the weight of VOC per volume of
26 coating, less the volume of water and exempt compounds. It is
27 calculated with the following equation:

$$\text{VOC Regulatory} = (W_s - W_w - W_{ec}) (V_m - V_w - V_{ec})$$

29 Where, VOC regulatory= grams of VOC per liter of coating,
30 less water and

31 exempt compounds (also known as "Coating VOC");

32 W_s = weight of volatiles, in grams;

33 W_w = weight of water, in grams;

34 W_{ec} = weight of exempt compounds, in grams;

35 V_m = volume of coating, in liters;

36 V_w = volume of water, in liters; and

37 V_{ec} = volume of exempt compounds, in liters

38 "Waterproofing membrane" means a clear or opaque coating
39 that is labeled and formulated for application to concrete and
40 masonry surfaces to provide a seamless waterproofing membrane

1 that prevents any penetration of liquid water into the
2 substrate.

3 (1) Waterproofing membranes are intended for the following
4 waterproofing applications: below-grade surfaces, between
5 concrete slabs, inside tunnels, inside concrete planters, and
6 under flooring materials.

7 (2) The waterproofing membrane category does not include
8 topcoats that are included in the concrete/masonry sealer
9 category (e.g., parking deck topcoats, pedestrian deck topcoats,
10 etc.).

11 (3) Waterproofing Membranes shall:

12 (a) Be applied in a single coat of at least 25 mils (at
13 least 0.025 inch) dry film thickness; and

14 (b) Meet or exceed the requirements contained in ASTM
15 C836-06.

16 "Wood coatings" means coatings labeled and formulated for
17 application to wood substrates only and include clear and
18 semitransparent coatings: lacquers; varnishes; sanding sealers;
19 penetrating oils; clear stains; wood conditioners used as
20 undercoats; and wood sealers used as topcoats. The Wood Coatings
21 category also includes the following opaque wood coatings:
22 opaque lacquers, opaque sanding sealers, and opaque lacquer
23 undercoaters but do not include clear sealers that are labeled
24 and formulated for use on concrete/masonry surfaces or coatings
25 intended for substrates other than wood.

26 "Wood preservative" means a coating labeled and formulated
27 to protect exposed wood from decay or insect attack that is
28 registered with the U.S. EPA under the Federal Insecticide,
29 Fungicide, and Rodenticide Act (7 United States Code (U.S.C.)
30 Section 136, et seq.).

31 "Wood substrate" means a substrate made of wood,
32 particleboard, plywood, medium density fiberboard, rattan,
33 wicker, bamboo, or composite products with exposed wood grain
34 but does not include items comprised of simulated wood.

35 "Zinc-rich primer" means a coating that contains at least
36 65% metallic zinc powder or zinc dust by weight of total solids
37 and is formulated for application to metal substrates to provide
38 a firm bond between the substrate and subsequent applications of
39 coatings and are intended for professional use only.

40
41

R307-361-4. Exemptions.

The coatings described in R307-361-4(1) through (3) are exempt from the requirements of R307-361.

(1) Any architectural coating that is supplied, sold, offered for sale, or manufactured for use outside of the counties in R307-361-2 or for shipment to other manufacturers for reformulation or repackaging.

(2) Any aerosol coating product.

(3) Any architectural coating that is sold in a container with a volume of one liter (1.057 quarts) or less, including kits containing containers of different colors, types or categories of coatings and two component products and including multiple containers of one liter or less that are packaged and shipped together with no intent or requirement to ultimately be sold as one unit.

(a) The exemption in R307-361-4(3) does not include bundling of containers one liter or less, which are sold together as a unit with the intent or requirement that they be combined into one container.

(b) The exemption in R307-361-4(3) does not include packaging from which the coating cannot be applied. This exemption does include multiple containers of one liter or less that are packaged and shipped together with no intent or requirement to ultimately sell as one unit.

R307-361-5. Standards.

(1) Except as provided in R307-361-5(2) and (3), no person shall manufacture, blend, or repackage for use within the counties in R307-361-2; supply, sell, or offer for sale within the counties in R307-361-5; or solicit for application or apply within those counties any architectural coating with a VOC content in excess of the corresponding limit specified in Table 1.

TABLE 1

VOC Content Limit for Architectural and Industrial Maintenance Coatings

(Limits are expressed as VOC content, thinned to the manufacturer's maximum thinning recommendation, excluding any colorant added to tint bases.)

1	COATING CATEGORY	VOC Content Limit
2		(grams/liter)
3	Flat coatings	50
4	Non-flat coatings	100
5	Non-flat/high-gloss coatings	150
6	<u>Specialty Coatings</u>	
7	Aluminum roofing	450
8	Basement Specialty Coatings	400
9	Bituminous Specialty Coatings	400
10	Bituminous roof coatings	270
11	Bituminous roof primers	350
12	Bond beakers	350
13	Calcimine recoaters	475
14	Concrete curing compounds	350
15	Concrete/masonry sealer	100
16	Concrete surface retarders	780
17	Conjugated oil varnish	450
18	Conversion varnish	725
19	Driveway sealers	50
20	Dry fog coatings	150
21	Faux finishing coatings	350
22	Fire resistive coatings	350
23	Floor coatings	100
24	Form-release compounds	250
25	Graphic arts coatings	500
26	(sign paints)	
27	High temperature coatings	420
28	Impacted Immersion Coatings	780
29	Industrial maintenance coatings	250
30	Low solids coatings	120
31	Magnesite cement coatings	450
32	Mastic texture coatings	100
33	Metallic pigmented coatings	500
34	Multi-color coatings	250
35	Nuclear coatings	450
36	Pre-treatment wash primers	420
37	Primers, sealers, and	100
38	undercoaters	
39	Reactive penetrating sealer	350
40	Reactive penetrating	500
41	carbonate stone sealer	

1	Recycled coatings	250
2	Roof coatings	250
3	Rust preventative coatings	250
4	Shellacs:	
5	Clear	730
6	Opaque	550
7	Specialty primers, sealers,	100
8	and undercoaters	
9	Stains	250
10	Stone consolidant	450
11	Swimming pool coatings	340
12	Thermoplastic rubber coatings	550
13	and mastic	
14	Traffic marking coatings	100
15	Tub and tile refinish	420
16	Waterproofing membranes	250
17	Wood coating	275
18	Wood Preservatives	350
19	Zinc-Rich Primer	340

20

21 (2) If a coating is recommended for use in more than one
 22 of the specialty coating categories listed in Table 1, the most
 23 restrictive (lowest) VOC content limit shall apply. (a) This
 24 requirement applies to usage recommendations that appear
 25 anywhere on the coating container, anywhere on any label or
 26 sticker affixed to the container, or in any sales, advertising,
 27 or technical literature supplied by a manufacturer or anyone
 28 acting on their behalf.

29 (b) R307-361-5(2) does not apply to the following coating
 30 categories:

- 31 (i) Aluminum roof coatings
- 32 (ii) Bituminous roof primers
- 33 (iv) High temperature coatings
- 34 (v) Industrial maintenance coatings
- 35 (vi) Low-solids coatings
- 36 (vii) Metallic pigmented coatings
- 37 (viii) Pretreatment wash primers
- 38 (ix) Shellacs
- 39 (x) Specialty primers, sealers and undercoaters
- 40 (xi) Wood Coatings
- 41 (xii) Wood preservatives

1 (xiii) Zinc-rich primers

2 (xiv) Calcimine recoaters

3 (xv) Impacted immersion coatings

4 (xvi) Nuclear coatings

5 (xvii) Thermoplastic rubber coatings and mastic

6 (xviii) Concrete surface retarders

7 (3) Sell-through of coatings. A coating manufactured prior
8 to the effective date specified for that coating in Table 1 and
9 that complied with the standards in effect at the time the
10 coating was manufactured, may be sold, supplied, or offered for
11 sale for up to three years after the specified effective date.

12 (a) A coating manufactured before the effective date
13 specified for that coating in Table 1 may be applied at any
14 time, both before and after the specified effective date, so
15 long as the coating complied with the standards in effect at the
16 time the coating was manufactured.

17 (b) R307-361-5(3) does not apply to any coating that does
18 not display the date or date code required by R307-361-6(1)(a).

19 (4) Painting practices. All architectural coating
20 containers used when applying the contents therein to a surface
21 directly from the container by pouring, siphoning, brushing,
22 rolling, padding, ragging or other means, shall be closed when
23 not in use. These architectural coating containers include, but
24 are not limited to, drums, buckets, cans, pails, trays or other
25 application containers. Containers of any VOC-containing
26 materials used for thinning and cleanup shall also be closed
27 when not in use.

28 (5) Thinning. No person who applies or solicits the
29 application of any architectural coating shall apply a coating
30 that is thinned to exceed the applicable VOC limit specified in
31 Table 1.

32 (6) Rust preventative coatings. No person shall apply or
33 solicit the application of any rust preventative coating
34 manufactured before January 1, 2014 for industrial use, unless
35 such a rust preventative coating complies with the industrial
36 maintenance coating VOC limit specified in Table 1.

37 (7) Coatings not listed in Table 1. For any coating that
38 does not meet any of the definitions for the specialty coatings
39 categories listed in Table 1, the VOC content limit shall be
40 determined by classifying the coating as a flat, non-flat, or
41 non-flat/high gloss coating, based on its gloss, as defined in

1 R307-361-3 and the corresponding flat, non-flat, or non-
2 flat/high gloss coating VOC limit in Table 1 shall apply.

3
4 **R307-361-6. Container Labeling Requirements.**

5 (1) Each manufacturer of any architectural coating subject
6 to R307-361 shall display the information listed in R307-361-
7 6(1)(a) through (c) on the coating container (or label) in which
8 the coating is sold or distributed.

9 (a) Date Code.

10 (i) The date the coating was manufactured, or a date code
11 representing the date, shall be indicated on the label, lid or
12 bottom of the container.

13 (ii) If the manufacturer uses a date code for any coating,
14 the manufacturer shall file an explanation of each code with the
15 director upon request.

16 (b) Thinning Recommendations.

17 (i) A statement of the manufacturer's recommendation
18 regarding thinning of the coating shall be indicated on the
19 label or lid of the container.

20 (ii) This requirement does not apply to the thinning of
21 architectural coatings with water.

22 (iii) If thinning of the coating prior to use is not
23 necessary, the recommendation shall specify that the coating is
24 to be applied without thinning.

25 (c) VOC Content.

26 (i) Each container of any coating subject to this rule
27 shall display one of the following values, in grams of VOC per
28 liter of coating:

29 (A) Maximum VOC content as determined from all potential
30 product formulations;

31 (B) VOC content as determined from actual formulation
32 data; or

33 (C) VOC content as determined using the test methods in
34 R307-361-8.

35 (ii) If the manufacturer does not recommend thinning, the
36 container shall display the VOC Content, as supplied.

37 (iii) If the manufacturer recommends thinning, the
38 container shall display the VOC Content, including the maximum
39 amount of thinning solvent recommended by the manufacturer.

40 (iv) If the coating is a multicomponent product, the
41 container shall display the VOC content as mixed or catalyzed.

1 (v) If the coating contains silanes, siloxanes, or other
2 ingredients that generate ethanol or other VOCs during the
3 curing process, the VOC content shall include the VOCs emitted
4 during curing.

5 (2) Faux finishing coatings. The labels of all clear
6 topcoat faux finishing coatings shall prominently display the
7 statement, "This product can only be sold or used as part of a
8 faux finishing coating system."

9 (3) Industrial maintenance coatings. The label of all
10 industrial maintenance coatings shall prominently display at
11 least one of the following statements:

12 (a) "for industrial use only;"

13 (b) "for professional use only;" or

14 (c) "not for residential use" or "not intended for
15 residential use."

16 (4) Rust preventative coatings. The labels of all rust
17 preventative coatings shall prominently display the statement,
18 "For metal substrates only."

19 (5) Non-flat/high-gloss coatings. The labels of all non-
20 flat/high-gloss coatings shall prominently display the words
21 "high gloss."

22 (6) Specialty primers, sealers and undercoaters. The
23 labels of all specialty primers, sealers and undercoaters shall
24 prominently display one or more of the following descriptions:

25 (a) "For blocking stains;"

26 (b) "For smoke-damaged substrates;"

27 (c) "For fire-damaged substrates;"

28 (d) "For water-damaged substrates;" or

29 (e) "For excessively chalky substrates."

30 (7) Reactive penetrating sealers. The labels of all
31 reactive penetrating sealers shall prominently display the
32 statement, "Reactive penetrating sealer."

33 (8) Reactive penetrating carbonate stone sealers. The
34 labels of all reactive penetrating carbonate stone sealers shall
35 prominently display the statement, "Reactive penetrating
36 carbonate stone sealer."

37 (9) Stone consolidants. The labels of all stone
38 consolidants shall prominently display the statement, "Stone
39 consolidant -For professional use only."

40 (10) Wood coatings. The labels of all wood coatings shall
41 prominently display the statement, "For wood substrates only."

1 (11) Zinc rich primers. The labels of all zinc rich
2 primers shall prominently display one or more of the following
3 descriptions:

4 (a) "For professional use only;"

5 (b) "For industrial use only;" or

6 (c) "Not for residential use" or "Not intended for
7 residential use."

8
9 **R307-361-7. Reporting Requirements.**

10 (1) Within 180 days of written request from the director,
11 the manufacturer shall provide the director with data concerning
12 the distribution and sales of architectural coatings, including,
13 but not limited to:

14 (a) The name and mailing address of the manufacturer;

15 (b) The name, address and telephone number of a contact
16 person;

17 (c) The name of the coating product as it appears on the
18 label and the applicable coating category;

19 (d) Whether the product is marketed for interior or
20 exterior use or both;

21 (e) The number of gallons sold in counties listed in R307-
22 361-2 in containers greater than one liter (1.057 quart) and
23 equal to or less than one liter (1.057 quart);

24 (f) The VOC actual content and VOC regulatory content in
25 grams per liter;

26 (i) If thinning is recommended, list the VOC actual
27 content and VOC regulatory content after maximum recommended
28 thinning.

29 (ii) If containers less than one liter have a different
30 VOC content than containers greater than one liter, list
31 separately.

32 (iii) If the coating is a multi-component product, provide
33 the VOC content as mixed or catalyzed.

34 (g) The names and CAS numbers of the VOC constituents in
35 the product;

36 (h) The names and CAS numbers of any compounds in the
37 product specifically exempted from the VOC definition in R307-
38 101;

39 (i) Whether the product is marketed as solvent-borne,
40 waterborne, or 100% solids;

41 (j) Description of resin or binder in the product;

1 (k) whether the coating is a single-component or multi-
2 component product;

3 (l) The density of the product in pounds per gallon;

4 (m) The percent by weight of: solids, all volatile
5 materials, water, and any compounds in the product specifically
6 exempted from the VOC definition in R307-101; and

7 (n) The percent by volume of: solids, water, and any
8 compounds in the product specifically exempted from the VOC
9 definition in R307-101.

10
11 **R307-361-8. Test Methods.**

12 (1) Calculation of VOC content.

13 (a) For the purpose of determining compliance with the VOC
14 content limits in Table 1, the VOC content of a coating shall be
15 calculated by following the appropriate formula found in the
16 definitions of VOC actual, VOC content, and VOC regulatory found
17 in R307-361-3.

18 (b) The VOC content of a tint base shall be determined
19 without colorant that is added after the tint base is
20 manufactured.

21 (c) If the manufacturer does not recommend thinning, the
22 VOC content shall be calculated for the product as supplied.

23 (d) If the manufacturer recommends thinning, the VOC
24 content shall be calculated including the maximum amount of
25 thinning solvent recommended by the manufacturer.

26 (e) If the coating is a multi-component product, the VOC
27 content shall be calculated as mixed or catalyzed.

28 (f) The coating contains silanes, siloxanes, or other
29 ingredients that generate ethanol or other VOC during the curing
30 process, the VOC content shall include the VOCs emitted during
31 curing.

32 (2) VOC content of coatings.

33 (a) To determine the VOC content of a coating, the
34 manufacturer may use EPA Method 24, SCAQMD Method 304-91
35 (revised February 1996), or an alternative method, formulation
36 data, or any other reasonable means for predicting that the
37 coating has been formulated as intended (e.g., quality assurance
38 checks, recordkeeping).

39 (b) If there are any inconsistencies between the results
40 of EPA Method 24 test and any other means for determining VOC
41 content, the EPA Method 24 test results will govern.

1 (c) The exempt compounds content shall be determined by
2 ASTM D 3960-05, SCAQMD Method 303-91 (Revised 1993), BAAQMD
3 Method 43 (Revised 1996), or BAAQMD Method 41 (Revised 1995), as
4 applicable.

5 (3) Methacrylate traffic marking coatings. Analysis of
6 methacrylate multicomponent coatings used as traffic marking
7 coatings shall be conducted according to a modification of EPA
8 Method 24 (40 CFR 59, subpart D, Appendix A), which has not been
9 approved for methacrylate multicomponent coatings used for
10 purposes other than as traffic marking coatings or for other
11 classes of multicomponent coatings.

12 (4) Flame spread index. The flame spread index of a fire-
13 retardant coating shall be determined by ASTM E84-10, "Standard
14 Test Method for Surface Burning Characteristics of Building
15 Materials."

16 (5) Fire resistance rating. The fire resistance rating of
17 a fire-resistive coating shall be determined by ASTM E119-08,
18 "Standard Test Methods for Fire Tests of Building Construction
19 and Materials."

20 (6) Gloss determination. The gloss of a coating shall be
21 determined by ASTM D523-89 (1999), "Standard Test Method for
22 Specular Gloss."

23 (7) Metal content of coatings. The metallic content of a
24 coating shall be determined by SCAQMD Method 318-95,
25 "Determination of Weight Percent Elemental Metal in Coatings by
26 X-Ray Diffraction, SCAQMD Laboratory Methods of Analysis for
27 Enforcement Samples."

28 (8) Acid content of coatings. The acid content of a
29 coating shall be determined by ASTM D1613-06, "Standard Test
30 Method for Acidity in Volatile Solvents and Chemical
31 Intermediates Used in Paint, Varnish, Lacquer and Related
32 Products."

33 (9) Drying times. The set-to-touch, dry-hard, dry-to-
34 touch and dry-to-recoat times of a coating shall be determined
35 by ASTM D1640-95 (1999), "Standard Methods for Drying, Curing,
36 or Film Formation of Organic Coatings at Room Temperature," and
37 the tack-free time of a quick-dry enamel coating shall be
38 determined by the Mechanical Test Method of ASTM D1640-95.

39 (10) Surface chalkiness. The chalkiness of a surface
40 shall be determined by using ASTM D4214-07, "Standard Test

1 Methods for Evaluating the Degree of Chalking of Exterior Paint
2 Films."

3 (11) Exempt compounds-siloxanes. Exempt compounds that
4 are cyclic, branched, or linear, completely methylated
5 siloxanes, shall be analyzed as exempt compounds by ASTM D 3960-
6 05, "Standard Practice for Determining Volatile Organic Compound
7 (VOC) Content of Paints and Related Coatings" or by BAAQMD
8 Method 43, "Determination of Volatile Methylsiloxanes in
9 Solvent-Based Coatings, Inks, and Related Materials," BAAQMD
10 Manual of Procedures, Volume III, adopted November 6, 1996.

11 (12) Exempt compounds-parachlorobenzotrifluoride (PCBTF).
12 The exempt compound PCBTF, shall be analyzed as an exempt
13 compound by methods referenced in ASTM D 3960-05 "Standard
14 Practice for Determining Volatile Organic Compound (VOC) Content
15 of Paints and Related Coatings" or by BAAQMD Method 41,
16 "Determination of Volatile Organic Compounds in Solvent Based
17 Coatings and Related Materials Containing
18 Parachlorobenzotrifluoride," BAAQMD Manual of Procedures, Volume
19 III, adopted December 20, 1955.

20 (13) Tub and tile refinish coating adhesion. The adhesion
21 of tub and tile coating shall be determined by ASTM D4585-99,
22 "Standard Practice for Testing Water Resistance of Coatings
23 Using Controlled Condensation" and ASTM D3359-02, "Standard Test
24 Methods for Measuring Adhesion by Tape Test."

25 (14) Tub and tile refinish coating hardness. The hardness
26 of tub and tile refinish coating shall be determined by ASTM
27 D3363-05, "Standard Test Method for Film Hardness by Pencil
28 Test."

29 (15) Tub and tile refinish coating abrasion resistance.
30 Abrasion resistance of tub and tile refinish coating shall be
31 analyzed by ASTM D4060-07, "Standard Test Methods for Abrasion
32 Resistance of Organic Coatings by the Taber Abraser."

33 (16) Tub and tile refinish coating water resistance.
34 Water resistance of tub and tile refinish coatings shall be
35 determined by ASTM D4585-99, "Standard Practice for Testing
36 Water Resistance of Coatings Using Controlled Condensation" and
37 ASTM D714-02e1, "Standard Test Method for Evaluating Degree of
38 Blistering of Paints."

39 (17) Waterproofing membrane. Waterproofing membrane shall
40 be tested by ASTM C836-06, "Standard Specification for High

1 Solids Content, Cold Liquid-Applied Elastomeric Waterproofing
2 Membrane for Use with Separate Wearing Course."

3 (18) Reactive penetrating sealer water repellency.
4 Reactive penetrating sealer water repellency shall be analyzed
5 by ASTM C67-07, "Standard Test Methods for Sampling and Testing
6 Brick and Structural Clay Tile;" ASTM C97-02, "Standard Test
7 Methods for Absorption and Bulk Specific Gravity of Dimension
8 Stone;" or ASTM C140-06, "Standard Test Methods for Sampling and
9 Testing Concrete Masonry Units and Related Units."

10 (19) Reactive penetrating sealer water vapor transmission.
11 Reactive penetrating sealer water vapor transmission shall be
12 analyzed ASTM E96/E96M-05, "Standard Test Method for Water Vapor
13 Transmission of Materials."

14 (20) Reactive penetrating sealer -chloride screening
15 applications. Reactive penetrating sealers shall be analyzed by
16 National Cooperative Highway Research Report 244 (1981),
17 "Concrete Sealers for the Protection of Bridge Structures."

18 (21) Stone consolidants. Stone consolidants shall be
19 tested by using ASTM E2167-01, "Standard Guide for Selection and
20 Use of Stone Consolidants."

21 (22) Radiation resistance -nuclear coatings. The
22 radiation resistance of a nuclear coating shall be determined by
23 ASTM D 4082-02, "Standard Test Method for Use in Light Water
24 Nuclear Power Plants."

25 (23) Chemical resistance -nuclear coatings. The chemical
26 resistance of nuclear coatings shall be determined by ASTM
27 D3912-95 (2001), "Standard Test Method for Chemical Resistance
28 of Coatings Used in Light Water Nuclear Power Plants."

29
30 **R307-361-9. Compliance Schedule.**

31 Persons subject to this rule shall be in compliance by
32 September 1, 2014.

33
34 **KEY: air pollution, emission controls, architectural coatings**

35 **Date of Enactment or Last Substantive Amendment: 2013**

36 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**